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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/799,450	03/13/2004	Paul A. Lovoi	688P	6220

7590 11/01/2005  
Thomas M. Freiburger  
P.O. Box 1026  
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EXAMINER


THOMAS, COURTNEY D

ART UNIT PAPER NUMBER

2882

DATE MAILED: 11/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/799,450	Applicant(s) LOVOI ET AL. 	
	Examiner Courtney Thomas	Art Unit 2882	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 March 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-32 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. This application contains claims directed to the following patentably distinct species of the claimed invention:
2. Species I, directed towards an apparatus wherein a cathode filament is pre-coated with a conductive metal precursor, which when operated, deposits the conductive material on the cathode base and extractor cup, as grouped in claims 1-4.
3. Species II, directed toward an apparatus wherein a cathode base comprises a conductor that flows when heated to a predetermined temperature, and forms a conductive path between a cathode filament support post and wall of the extractor cup, as grouped in claim 5.
4. Species III, directed toward an apparatus wherein a spring conductor extends across an interior of a hollow extractor cup and is in contact with a cathode filament support lead and extractor cup wall, the spring conductor being deflected to a curving shape by confinement within the extractor cup and by firm engagement against the one lead, as grouped in claims 7-10.
5. Species IV, directed toward an apparatus wherein a cathode filament is supported by upstanding leads from a cathode base, the filament leads being co-axial, with an outer conductive lead surrounding an inner conductive lead, and wherein conductive means extending between the outer coaxial filament support lead and inner wall of the extractor cup form an electrical path between outer lead and extractor cup wall as grouped in claims 11-17.
6. Species V, directed toward an apparatus wherein an extractor cup has a conductive bottom plate connected to the bottom of the extractor cup, the bottom plate having an opening through which cathode filament support posts extend up into the extractor cup, the opening being

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non-symmetrical about the filament support posts and the bottom plate being rotated in position on assembly such that an edge of the opening engages firmly against one of the filament posts and the extractor cup and bottom plate being secured to a cathode base so that the conductive bottom plate is fixed in position, as grouped in claim 18.

7. Species VI, directed toward an apparatus wherein a wire, extends from one end of a cathode filament and into contact with a wall of an extractor cup, as grouped in claims 19-24.

8. Species VII, directed to an apparatus, one of a filament support posts is longer than the other and extends beyond the filament, the extractor cup being assembled into a cathode base over the filament support posts such that an end of the longer post engages directly against an inner surface of an extractor cup, as grouped in claims 25-27.

9. Species VIII, directed to an apparatus, a cathode filament having a second end, the second end being secured to the inner surface of the extractor cup and a second conductive lead extending from a cathode base into connection with the inner surface of an extractor cup, as grouped in claims 28-30.

10. Species IX, directed to an apparatus, end of a filament support post being crimped onto an end of a cathode filament, in an elongated crimp deforming the metal of the post outwardly to a position such that the crimped post contacts an inner surface of an extractor cup, as grouped in claim 31.

11. Species X, directed to an apparatus, wherein a third high voltage lead electrically connected to an inner surface of an extractor cup, with a means connected to the third high voltage lead for varying voltage at the extractor cup to place a bias on the extractor cup to control electron flow from the cathode as grouped in claim 32.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, no claim is generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

12. Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

13. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

14. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the

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currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Courtney Thomas whose telephone number is (571) 272-2496. The examiner can normally be reached on M - F (9 am - 5 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (571) 272 2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Courtney Thomas  
Examiner  
Art Unit 2882